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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/781,180	02/18/2004	Yasutoshi Tasaka	2083.69735	1822

7590 03/23/2007
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EXAMINER

NGUYEN, HOAN C

ART UNIT PAPER NUMBER

2871

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/23/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/781,180	Applicant(s) TASAKA ET AL.	
	Examiner HOAN C. NGUYEN	Art Unit 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 26-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 26, 27 and 29 is/are rejected.
- 7) ☒ Claim(s) 28 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>2/28/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

In preliminary amendment, claims 1-25 are cancelled. Claims 26-29 are still pending.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 26-27 and 29 are rejected under 35 U.S.C. 102(e) as being anticipated by Choi et al. (US7016112B2).

In regard to claim 26, Choi et al. disclose (figs. 4-5) a method of fabricating a liquid crystal display device comprising a pair of opposed and spaced substrates, an alignment layer formed on one of said substrates, an alignment layer formed on the other substrate, a plurality of bus lines provided on one of said substrates, and a liquid crystal inserted between said pair of substrates, said method comprising the steps of:

- forming an alignment layer 50 on each of said substrates 70;
- preparing a mask (including 10 and 80 as Fig. 5A shown) having
 - a body portion 10 as shown in Fig. 4B

Art Unit: 2871

- a plurality of light path changing portions arranged in said body portion corresponding to pixel pitches, said body portion of said mask has a first flat surface (rear surface of mask 80),
- a second surface on the opposite side from said first surface (front surface of 10), and
- a plurality of cavities provided in said second surface, first and second vertical planes being defined perpendicular to said first surface and perpendicular to each other,
- each cavity having first and second oblique surfaces (surfaces of quartz substrate 15) arranged on either side of the first vertical plane to diverge in the direction from said first surface toward said second surface, and third and fourth oblique surfaces arranged on either side of the second vertical plane to diverge in the direction from said first surface toward said second surface, said light path changing portions being formed by said cavities and a material contained in said cavities;
- putting said mask on said substrate70; and
- irradiating the surface of said alignment layer of said substrate with ultraviolet light (col. 3 line 4) in the oblique direction, using said mask

wherein

Claim 27:

- said cavity has a saw-toothed shape having an equilateral triangular cross-section as Fig. 4B shown.

Art Unit: 2871

Claim 29:

- alignment treatment by the irradiation of ultraviolet light is carried out regarding one of the substrates having no such bus lines, and alignment treatment by the irradiation of ultraviolet light is not carried out regarding the other substrate having said bus lines.

Allowable Subject Matter

Claim 28 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: there is no prior teaches the cavity having a saw-toothed shape having a trapezoidal cross-section as claim 28 cited.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Koike et al. (US5629056) disclose a liquid crystal display panel which has improved viewing angle characteristics, is free from deterioration of a liquid crystal, enables the alignment division to be easily and ensurely carried out and has a simple structure.

Yoon et al. (US 7061679 B1) disclose a light irradiating device for a photo-alignment process comprises an optical system and a first polarizer polarizing the light from the optical system. The light from the first polarizer is obliquely irradiated at an angle with respect to a normal direction of a stage on which a substrate is placed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HOAN C. NGUYEN whose telephone number is (571) 272-2296. The examiner can normally be reached on MONDAY-THURSDAY:8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571) 272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HOAN C. NGUYEN
Examiner
Art Unit 2871

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ANDREW SCHECHTER
PRIMARY EXAMINER